



Marywood
UNIVERSITY

MFI Technical Report 98-4

Military Community Cohesion

Peggy McClure
Walter Broughton

September 1998

MILITARY FAMILY INSTITUTE
MARYWOOD UNIVERSITY, SCRANTON, PA

19981103 097



Approved for public release; distribution is unlimited.

DTIC QUALITY INSPECTED 4



Military Family Institute
Marywood University
2300 Adams Avenue
Scranton, PA 18509
[HTTP://MFI.MARYWOOD.EDU](http://MFI.MARYWOOD.EDU)
PHONE: (717) 961-4716

Michael D. Shaler, M.B.A.
Director

Alan M. Levine, Ph.D., R.D.
Deputy Director for Research

Joseph G. Giacofci, M.B.A.
Deputy Director for Administration

NOTICES

Acknowledgement of Sponsorship

"Effort sponsored by the Air Force Office of Scientific Research, Air Force Materiel Command, USAF, under grant number F49620-93-1-0586. The U.S. Government is authorized to reproduce and distribute reprints for Governmental purposes notwithstanding any copyright notation thereon."

Disclaimer

"The views and conclusions contained herein are those of the authors and should not be interpreted as necessarily representing the official policies or endorsements, either expressed or implied, of the Air Force Office of Scientific Research or the U.S. Government."

Foreword

The relationship between quality-of-life programs and the readiness of our Armed Forces has been well documented over the past fifteen years. The research conducted in this area has helped guide major investment decisions by the Department of Defense as funding has increased for childcare; improvements in family housing; and the construction of medical facilities, commissaries, and exchange retail stores

These overall improvements to military installations throughout the world have contributed to an enhanced quality of life for military members and their families. However, data which help focus more clearly on the relationships between investment decisions designed to improve military communities and resultant improvements in readiness and retention are not plentiful.

The instrument design described in this report seeks to gain a fuller understanding of the relationships between the overall sense of cohesion and well being which permeates a given military community and the readiness of the units stationed on the particular installation. The study is aimed at better understanding the relationships between inputs (i.e., investments in specific quality-of-life programs) and outputs (increased readiness and improved personnel retention). The contributions of cohesion in enhancing the output side of this equation are not fully explored for military communities. This study is specifically designed to address the role of military community cohesion and its contribution to readiness and retention.



Michael D. Shaler
Director

Acknowledgements

The authors wish to thank the individuals who have contributed to this project. Claude Fischer provided valuable advice and constructive criticism of our efforts. Davida Weinberg participated actively in the early stages of item development and directed our attention to several noteworthy contributions to the cohesion literature. Our research staff, Jolene Chomko, Mark Brennan, Jeff Leitzel, and Patricia Kubus-Lock provided yeoman service, good cheer, and substantive suggestions. We are grateful also to Paul Bliese, Jim Martin, Lyn Spillman, Barbara Rosenblum, and Phil Gorski who reviewed the initial pool of cohesion items. Finally, our liaison at the pretest site smoothed the way for the field work and persevered until an adequate sample was achieved.

Appreciation is also extended to Michael D. Shaler, Colonel, U.S. Army (Retired) and Alan M. Levine, Ph.D., R.D., for their comments on drafts of this report.

In addition, the authors appreciate the proofreading and formatting efforts of Judith Page, Sandra Magera and Brenda Lanning.

About the Authors

Peggy McClure, Ph.D., is the Senior Scientist at the MFI. She received her BA in Sociology from Smith College and her doctorate in Sociology from University of California at Berkeley. In addition to her work on this project, she was co-principal investigator on the "Military Marriages in the 1990s" study. McClure's background includes work on several large-scale survey research projects in the fields of mental health, occupational stress and recently, a qualitative study of people retiring from the military and making the transition to civilian life. She is currently Principal Investigator and editor of a soon-to-be released compendium of military family research.

Walter Broughton, Ph.D., is Associate Professor of Sociology at Marywood University. He received his AB with honors in Sociology and Anthropology from Colgate University and his masters and doctoral degrees in Sociology from Cornell University. He was a faculty research associate on the MFI's "Health and Nutrition of Children in Military Families" study prior to his work on the Military Cohesion project. His principal research interests are in family life and health care services. His publications have appeared in *Social Forces*, the *American Journal of Health Promotion*, the *American Journal of Alzheimer's Disease*, and the *Journal of Long Term Care Administration*, among others.

Executive Summary

Introduction

As the Cold War ended, the military services reduced the number of overseas bases, closed a number of installations in the continental United States, and concentrated their forces at a few larger installations. These trends, and the policy decisions which implemented the change in stationing policy have affected the cohesion of military communities. Additionally, the increase in unit deployments from these bases has resulted in a larger number of families remaining behind, on or near the installation, while service members depart on extended operational assignments.

The challenges presented to the military services by these changing realities have focused increased attention on the various components of military installation cohesion. The larger proportion of married service members, which has increased the dispersion of military families in the civilian communities surrounding military installations; the growing diversity of the demographic characteristics of military families; and the shifts in privatization and outsourcing have impacted the military installation and have led to some fundamental shifts in the characteristics of the posts and bases that are the central focus of military communities.

These changing characteristics have generated a requirement for increased understanding of military communities, and in particular on the various factors which affect the cohesive aspects of our military communities. The available research on military communities is generally based on Cold War realities, and there is little current data available upon which to base future policy decisions. There exists a body of sound research in the areas of adaptation of families to the military and the effects of deployment on the family that suggest that the community is potentially an important factor affecting readiness and retention. The study proposal described in this report addresses those issues, and outlines a research design to increase our understanding of the various components of military installation cohesion.

Objectives

The objectives of this study were to:

1. Explore factors which contribute to military community cohesion
2. Develop a measure of base cohesion
3. Investigate the interaction between unit cohesion and community cohesion
4. Assess the contributions of both unit cohesion and community cohesion to operational readiness.

Discussion

Objective 1. An extensive review of both military and civilian research on cohesion and communities identified several factors which have shown to be related to community cohesion. Some of these were incorporated into a questionnaire designed to measure cohesion and its correlates at the installation level. Antecedent variables included: on vs. off installation residence, length of tenure on the installation, rank, length of military service, stage of family and work life cycle, perceived opportunities in military vs. civilian life, and perceived attitudes toward the military in the surrounding civilian communities. The questionnaire also contains questions designed to assess the degree of participation in the life of the installation community as well as the perceived cohesion of the work units of the military members.

Objective 2. This report also describes the process by which the MFI team developed a set of items to measure base cohesion. These items were rated by a panel of experts for relevance and clarity and modified as necessary in response to their suggestions. A pretest was then conducted among 325 military personnel and spouses on an East Coast Air Base. A factor analysis yields two relatively stable and independent dimensions from the 50 Likert items constructed. These reliable scales correlate well with measures of work unit cohesion and with a measure of neighborhood cohesion (especially among respondents living in neighborhoods containing mostly other military families).

Objective 3. The literature review indicated that military research on cohesion has exclusively focused on work or combat units. To date, this research has not taken into account the larger organizational and community contexts in which these units operate. Studies of the relationship between cohesion and performance in other contexts indicate work units must be integrated into and incorporate the values and goals of the larger entity in which they are formed if cohesion is likely to produce the desired organizational outcomes. For this

reason we decided to investigate the relationships between unit cohesion and cohesion at the level of the installation community. The questionnaire designed by the MFI team includes items developed by other researchers to measure cohesion of military work units. These items were also included in the pretest of the base cohesion measure, as one device for validating our scale.

Objective 4. Operational readiness and retention are possible outcomes of base cohesion of most interest to the military. Therefore, the questionnaire contains items designed to measure perceived readiness and retention intentions as well as other possible consequences of cohesion such as satisfaction with community and military life, and perceived level of social problems on the installation. The study design would thus permit us to assess the relative contributions unit and installation cohesion to these types of outcomes. The pretest included some of these variables and the results indicate that the MFI base cohesion measures correlates as well or better than work unit cohesion with measures of retention.

Conclusions

The results of the pretest are promising, but represent just a first step in the process of developing a reliable and valid measurement instrument. It would be especially important to test the measure of base cohesion for homogeneity of response on a variety of installations and aggregate its individual values to provide an index of cohesion characterizing the installation as a whole. That aggregate measure must then be validated against other aggregate level measures of cohesion.

This preliminary work does, however, provide reason to believe that the cohesion a military community achieves affects readiness and retention and may also influence families' ability to cope with military life. A full-scale study, incorporating the research design discussed in this report, should provide the conclusive data needed to better understand these relationships.

Military Community Cohesion

Contents

Introduction	
Background.....	1
Impetus for the Research	1
Objectives.....	2
Changes Affecting Community in the Military.....	2
Theoretical Importance and Policy Implications	5
Research Questions	6
Literature Review.....	7
Military and Small Group Research on Cohesion.....	7
Community Research.....	9
The Community Cohesion Questionnaire	13
Cohesion Measures	13
Social Participation in Installation Life	13
Factors Influencing Cohesion	13
Outcomes	14
The Military Community Cohesion Scale	16
Item Construction and Pretesting.....	16
Analysis of Pretest and Development of the Cohesion Scale	18
Scale Validation	21
Implications	23
Conclusion	24
Bibliography.....	25

Introduction

Several trends and policy decisions affecting the military make the cohesion of installation communities increasingly problematic. These include: the larger proportion of married military members, which has produced increasing dispersion of military families in civilian communities around bases; the growing diversity of the military in demographic characteristics, as well as values and lifestyles; privatization and out-sourcing, which have created a growing civilian presence on military installations; and the likelihood of consolidating forces in large megabases which juxtapose different service branches (and cultures).

Very little research has been done on military communities; hence, there is little data available to assess the impact of these trends and policy changes. Nevertheless, the research on adaptation of families to the military and various studies of deployment imply that community cohesion is potentially an important factor affecting readiness and retention.

Background

Impetus for the Research

Several practical issues prompt this study. In a period of downsizing and budget cuts, Department of Defense policy makers and installation commanders need better information to assess the long term consequences of various policies. This study is particularly concerned with the impact of recent trends and decisions on the cohesion of military installations as communities, especially as this influences readiness and retention.

The impetus for this research came from recent experiences at Aviano Air Base. As a result of the Bosnia missions, Aviano has undergone a rapid build-up, high OPTEMPO (Operation Tempo), and a large influx of military families in an area which lacked the infrastructure to support them. In addition, because there is no room for on-base family housing, families are scattered throughout the surrounding area. Plans are in motion (Aviano 2000) to improve the physical infrastructure; already much new construction and remodeling of facilities is underway. There are also plans to build housing closer to the base for families. Installation leaders are concerned about building a sense of community as well.

It was clear from sessions with various groups at Aviano that the primary challenge now is how to maintain morale and commitment until adequate facilities are provided. It was also evident that most of the attention of installation leaders, planners, and service providers is focused on the *physical* infrastructure. Many tend to assume that clustered housing closer to base and improved on-base physical facilities will produce the desired sense of community. Less attention has been given to the other kinds of efforts needed to build a *social* infrastructure. By social infrastructure, we mean the social and cultural arrangements which facilitate interaction and social participation in the life of a community. Such arrangements form the basis of a strong sense of cohesion on installations, which will contribute to better adaptation to the stresses of military life for military members and their families.

Objectives

- Explore factors which contribute to military community cohesion
- Develop a measure of base cohesion
- Investigate the interaction between unit cohesion and community cohesion
- Assess the contributions of both unit cohesion and community cohesion to operational readiness

Changes Affecting Community in the Military

The issues of community and commitment among military members and their families are by no means unique to Aviano. Life on military installations everywhere has changed considerably over the past 20 years or so. In the past, military installations were largely self-contained and self-sufficient communities. Most military members were single, living in barracks. Those who were married were more likely to be officers and senior enlisted, living in family housing on the installations. Whether single or married, living on or off the installation, military members considered the base a focus of work and social life. All the basic needs were provided, from shopping and medical care to education and recreation. Installations in the pre-AVF (All Volunteer Force) period have been likened to "company towns" in which the employer provided for all the needs of its employees and their families (Martin & Orthner, 1989). Although there have always been high rates of mobility and turnover, military personnel and their families typically integrated quickly when they moved to a new assignment. One military installation was pretty much like the next and there were supports in place to ease the transition. People whose military careers began before the AVF recall that military installations were tight communities which provided a strong sense of belonging (McClure, 1992).

There is a perception (and concern) among some that the cohesive life of military communities is declining. Lacking a tradition of research which has measured base community cohesion over time, we will probably never know the extent to which such perceptions are grounded in reality. The danger always exists that they may reflect nostalgia for mythical "good old days." Nevertheless, there are several changes which might account for this perception. Furthermore, these developments point to the distinct possibility that, whatever the condition of community in the past, the military will certainly face future challenges in this area.

One of the most dramatic changes since the AVF is the increase in the proportion of married service members. As a result, there is a serious shortage of family housing on military installations (Twiss & Martin, 1998). Consequently, approximately two-thirds of military members and their families now live in nearby civilian communities (Twiss & Martin). With downsizing and base closures, both overseas (OCONUS) and in the continental United States (CONUS), it seems likely that in the future, military members and their families may be "home-based" on fewer and larger CONUS installations for longer periods of time. Lakhani (1994) raises the possibility that this would enable even more military members to purchase homes in the surrounding civilian communities and would permit civilian spouses to pursue more serious careers. What this might mean for the cohesion of military communities and commitment to military culture is complicated and uncertain. On the one hand, home ownership and a more stable career for the civilian spouse could increase satisfaction with the military. On the other hand, the sheer size of megabases and the increased dispersion of military families in the civilian community may undermine cohesion. Furthermore, if civilian spouses are more involved with civilian careers and civilian community activities, this might also pull the military partner away from involvement in the military community's informal life (Lakhani).

Military communities have also become less homogeneous, both demographically and in terms of values and lifestyles. There are more women and minorities among military personnel and the more inclusionary policies of the military have produced strains in military culture and some tensions in the military workplace and community (Dunivin, 1994). We know from civilian research that homogeneity is a factor which tends to be associated with more social participation and stronger identification with communities and neighborhoods, except in situations where members are committed to diversity (Donnelly & Maijka, 1996; Hunter, 1978; Merry, 1981; Suttles, 1968). Although in comparison to the civilian sector, the military has in many ways been on the forefront of promoting integration and equality of opportunity, the path in this direction has not always been smooth.

There has also been a definite shift away from the traditional family characterized by a civilian wife as full-time homemaker. The pattern of the traditional military wife supporting the military community through volunteer work and as hostess to social functions is decidedly on the decline. More civilian wives are working outside the home and have less time and inclination for such activities. In addition, there are more dual-military marriages, more civilian husbands, and more single parents (Durand, 1993; McClure & Stander, 1997). Durand has asked, "What will happen to the military community when officers' wives no longer play such an important role in holding it together?"

Understandable concern about alcohol abuse has led to policies which have inadvertently affected camaraderie and social cohesion on installations. Except perhaps at OCONUS installations, the officers' and NCO (non-commissioned officers) clubs are no longer the hubs of after-hour socializing that they once were. People are more likely to party at home or go off the installation for dining and drinking because they fear the consequences to their careers of DUI (Driving Under the Influence) citations on the installation (McClure, 1992).

Budget cuts and out-sourcing have changed the face of the military installation as well. Services and programs formerly staffed by the military have become more privatized. Cutbacks in services and benefits mean that military families are turning to the civilian community more and more for shopping, recreation, and other services. There are also more civilians working on installations in jobs that were formerly performed by military personnel. It is not clear that these civilian workers are well accepted or integrated into the life of the military community. There is anecdotal evidence that the increasing presence of civilians in former military functions may affect the morale and commitment of military members as well. They feel increasingly alienated from what they once thought of as their turf.¹

Some applaud these changes as providing opportunities for more freedom of choice and self-reliance for military members and their families. It is also argued that these changes could promote better relations and more effective partnerships between military installations and their surrounding civilian communities (Martin & Orthner, 1989). Some military leaders, however, fear that these trends may have negative effects upon the performance of military personnel and might undermine the commitment of military members and

¹ This evidence comes from comments spontaneously offered during focus group discussion with military members who took the pretest for this study and from interviews with military retirees. The topic was not on our list of issues to raise, but respondents brought it up and displayed quite strong feelings about it.

their families. Whether observers welcome or lament the changes, the issue of community is increasingly on the minds of military leaders and researchers.

Recently there have been conferences and symposia sponsored by the military at which the future of community in the military has been the theme (Bowen, 1998; DoD, 1996). In addition, Bowen and his associates have begun to develop a theoretical framework for conceptualizing community in a military context and specifying its relationship to family adaptation to military life (Bowen, Richman, & Bowen, in press). However, up to now very little has been done to obtain data that permit us to assess either the status of military communities or to measure the effects of these trends and the consequences of policy decisions on the cohesion of military communities.

Theoretical Importance and Policy Implications

Theoretically, higher cohesion at the installation level should enhance readiness and retention. A long tradition of sociological thought contends that cohesive communities more effectively socialize and control their members (Durkheim, 1951; Kanter, 1968). Thus we would anticipate lower rates of problem behaviors (AWOLS [absent without leave], DUIs, domestic violence and other disciplinary incidents) in more cohesive military communities. The large body of social support theory and research implies that more cohesive communities enhance levels of physical and mental well-being among their members (Cohen, Doyle, Skoner, Rabin, & Gwaltney, 1977; House, Landies, & Umberson, 1988; Leighton, Harding, Macklin, McMillian, & Leighton, 1959). As the military research tradition shows, both of these hypotheses have clear implications for readiness. The theoretical literature on organizations and community also supports the hypothesis that community cohesion should increase attachment to organizations and strengthen the desire to remain a member (Lincoln & Kalleberg, 1990).

There is little military research, however, which explicitly addresses the issue of cohesion at the installation or community level. Indirect support for the hypotheses outlined above can be drawn from several studies dealing with family or spousal adaptation to separation and deployment. In the studies of deployed units there is evidence that effective family support groups and strong informal ties among family members left behind contribute to better coping while the military member is absent (Bell, Stevens, & Segal, 1996). These studies also find that readiness and retention are enhanced when families of military members adapt well to the stresses and express satisfaction with military life. Such findings point to the potential importance of community cohesion in the readiness equation.

Concerns about retention have recently prompted much research interest and policy discussion around quality of life issues in the military. The primary foci of these studies have been on the adequacy of physical facilities and the use of and satisfaction with formal services and programs provided by the military. Some military family research has shown, however, that military members and their families prefer to rely on family and friends rather than formal services in times of stress (Albano, 1995). Nevertheless, the studies do demonstrate that the presence of such services, whether people actually use them or not, contributes significantly to satisfaction with military life (Segal & Harris, 1993). Although the availability of formal services and the adequacy of physical facilities are clearly very important, little research has been done on the quality of informal relationships and interpersonal commitments, i.e., the social infrastructure on military installations.

Research Questions

There are, therefore, several unanswered questions regarding how the changes described previously are affecting the cohesion of military communities.

- Does an increased civilian presence affect the sense of community among military members and their families?
- Does the presence of families strengthen or weaken the ties of military members to the installation?
- Does on-base/post housing promote a stronger commitment to the installation as a community?
- Are viable installation ties being formed along racial and gender lines?
- Does community cohesion on the installation level enhance the commitment and attachment of service members and their families to the military in the face of downsizing?
- Is cohesion at the level of the installation as important to morale and readiness as is cohesion at the unit level?

Because this study is exploratory, we will employ a multi-method approach, combining analysis of existing statistics, qualitative analysis of focus group and key informant interviews, and quantitative analysis of a questionnaire designed specifically for this project. This questionnaire will contain our newly developed community cohesion scale.

Literature Review

The first step in developing the community cohesion scale and the larger questionnaire was to review the research on cohesion and community in the civilian and military literature. We looked for common threads of meaning in these and related concepts and we carefully examined measures that have been used in other studies. Also of interest were any findings suggesting factors most likely to be strongly associated with community cohesion, either as antecedents or outcomes.

Military and Small Group Research on Cohesion

Military research has, to a large degree, focused on factors associated with readiness, performance, and retention. With the increase in numbers of married personnel, there has been a great deal of research on military families, possibly stemming from concern that family ties could compete with commitment to the military and/or affect readiness. Thus we have many studies of the impact of family variables on readiness and retention, as well as studies of family adaptation to and satisfaction with military life (Bowen, 1989a, 1989b; Janofsky, 1989; McCubbin & Lavee, 1986; Schneider & Gilley, 1984; Styles, Janofsky, Blankenship, & Bishop, 1990; Wood, Scarville, & Gravino, 1995;). For the most part, this research has concentrated on attributes and attitudes of individuals. While reference is sometimes made to the wider organizational and community context in which families and individuals function, there has been little effort to conceptualize this community context or to systematically study the factors that might hold it together or break it apart.

The military has also been interested in cohesion for a long time, but the focus has been on cohesion of the work group or unit. (Bliese & Halverston, 1996; Bliese, Halverson, & Rothberg, 1994; Griffith, 1988; Segal, Schubert, & Li, 1991). There has been a relatively steady stream of research and attempts to engineer unit cohesion since some of the earliest empirical studies showed that primary group attachments within units were more important for performance in combat than ideological beliefs about the military or the wars (Shils & Janowitz, 1948; Stouffer, Lumsdaine, Williams, Smith, Janis, Star, & Cottrell, 1949). According to Segal et al., military studies and policy related to unit cohesion have, however, been strongly influenced by the small group research tradition in social psychology and, as a result, share some of the problems widely discussed in that literature.

The first problem arises because most of the small group research operationalized cohesiveness as "interpersonal attraction to the group," using mainly sociometric measures. While this is certainly part of what is commonly meant by cohesion, critics argue that there are factors other than interpersonal attraction that keep members in groups, and cohesiveness does occur in situations where members show negative affect—dissatisfaction, dissension, and hostility (Ecsovar & Sim, 1974). In addition, "interpersonal attraction" does not apply so well to larger entities where face-to-face interaction does not always occur and yet such entities, like ethnic groups and communities, can be cohesive (Bollen & Hoyle, 1990; Hogg, 1992).

There has also been some controversy over whether cohesion is a uni- or multi-dimensional construct. A multi-dimensional conception seems more adequate on an intuitive level, but the empirical results have been mixed (Cota, Evans, Dion, Kilik, & Longman, 1995). Among the more promising attempts to develop a multi-dimensional construct is the work of Carron, Widmeyer, & Brawley (1985) with sports teams. They developed a conceptual model of cohesion which includes four dimensions. The first two distinguish between a member's perception of the group as a whole, which they call "group integration," and a member's personal attraction to the group, which they label "individual attraction." The second two dimensions derive from the observation that members' perceptions of the group and its attraction for them can be based on task or social aspects.

In a similar vein, Griffith (1988) proposed two dimensions of military-unit cohesion which hold promise for application to other entities. He distinguishes between "(a) the *direction* of cohesion—contrasting vertical cohesion (referring to superior-subordinate relations) and horizontal cohesion (referring to peer relations); and (b) the *functions* of cohesion—contrasting instrumental cohesion (relating to task performance) and affective cohesion (relating to interpersonal support)" (p. 165). The idea of the vertical dimension is that in cohesive units members have faith in the fairness and competence of their leaders as well as their sense that their leaders care about their welfare. The horizontal dimension is the confidence each member has in the other's competence and the mutual caring and affection they manifest in their relationships. Griffith clearly recognizes that cohesion is a group attribute, which he sees to be closely linked to commitment as an individual attribute.

Griffith (1988) thus calls attention to another problem with much of the research on cohesion. While many authors appear to recognize that cohesion is an attribute of a group, too often the individual has been their unit of analysis (Cota, et al., 1995; Sampson, 1988). Even Carron et al. (1985), who recognized the group level dimension, did not appear to use groups (i.e., teams) as the unit

of analysis in their actual research (Carron, et al.; Brawley, Carron, & Widmeyer, 1987; Brawley, 1990). Notable exceptions to this tendency include studies of military unit cohesion by Bliese et al. (1994; 1996) and Buckner's (1988) study of neighborhood cohesion. In both cases, Likert scales were used to assess attitudes and perceptions on the individual level, and then scores for the relevant groups were averaged to characterize the degree of cohesion of military units and neighborhoods, respectively.

In their review of military research and policy interest in cohesion, Segal et al. (1991) raises another problem which military studies share with much of the small group research tradition. Although the military has recognized the importance of primary group ties for performance, there has been a tendency to ignore the larger context in which groups occur. In our view, this is a quite serious omission because primary group attachments do not occur in a vacuum. Primary group ties are more likely to enhance performance and commitment to the extent that they incorporate the norms and goals of the larger military organization in which they are formed. Without that integration into the larger entity, cohesive groups may develop their own norms and goals that could potentially undermine those of the larger organization. Studies of performance and commitment of work groups in other organizations support this idea as well (Evans & Dion, 1991; Gully, Devine, & Whitney, 1995; Meyer, Paunonen, Gellatly, Goffin, & Jackson, 1989). Griffith (1988) also recognizes the potential importance of this issue in the military context. He observes that the military has tended to assume that unit cohesion has mainly positive effects and argues that further research is needed which takes into account the possibility of "negative cohesion"—the possibility that strong primary group ties could "adversely affect functioning at higher and lower organizational echelons." Griffith also points out that "strategies that would improve small-group relations both in the Army and civilian factories have paid little attention to the organizational contexts in which these programs are carried out" (p. 168).

Community Research

Thus we believe that to adequately conceptualize and study cohesion it is necessary to look beyond sources of individual attraction to groups and ask in what other ways individuals and smaller groups are bound to the larger structure and culture of which they are a part. An early study of utopian communities by Kanter (1968) is very suggestive in this regard. She sees this as a social system-level problem of commitment and identifies three types of commitment: *continuance*, which taps cognitive orientations of actors—their assessment of the relative costs and benefits of leaving versus staying in the

community; *cohesion*, which involves "positive cathectic orientations"—actors' affective ties to the community; and *control*, which refers to evaluative orientations—seeing the norms, demands, and sanctions of the community as legitimate and necessary (Kanter, p. 500). She further identifies the structural mechanisms (sacrifice, investment, renunciation, communion, mortification, and surrender) that successful communities have employed to solve the problems of continuance, cohesion, and control. Kanter suggests that these mechanisms may be evident in modified forms in other types of social organizations. Since versions of these mechanisms have been observable in the Armed Forces, especially in basic training and academies, we were particularly interested in the degree to which families, as well as members, displayed evidence that such mechanisms draw them into the life of the military community.

The importance of the larger structural and cultural context is also evident in the writings of authors interested in social capital, which is just one of the positive outcomes of cohesive communities. For example, Portes & Sensenbrenner (1993) developed a typology of structural sources of social capital which, taken together, resemble what many authors are getting at when trying to understand what holds communities (and other types of social organization) together. The typology includes: "value introjection—socialization into consensually established beliefs;" "reciprocity exchanges—a norm of reciprocity in face-to-face interaction;" "bounded solidarity—situation reactive sentiments" (e.g., bonds which develop in ethnic communities in response to discrimination/hostility from dominant groups); and "enforceable trust—particularistic rewards and sanctions linked to group membership" (p. 1326).

Although the sociological perspective calls for the kind of system-level analysis found in the work of Kanter (1968) and Portes & Sensenbrenner (1993), we found that many of the more recent empirical studies of community are based on surveys and do not go beyond the individual level of analysis. Moreover, in the research literature on community, the term cohesion (social cohesion, community cohesion) appears frequently, yet is not often formally conceptualized and measured. More typically, authors are working with related concepts—community attachment, community satisfaction, psychological sense of community, and social networks. Although theoretically these terms reference somewhat different concepts, in practice the items used to measure them overlap considerably and tap into what is often meant by cohesion. This body of research also provides hypotheses and findings regarding antecedents and consequences of community cohesion.

Community attachment research has been concerned with people's attachment to "place," often operationalized as the degree to which they would be unhappy

to leave their residential community as well as the extent and nature of their social ties and organizational membership in the community (Goudy, 1990). In general, the findings challenge the "linear model," which holds that the primary factors affecting community attachment are increases in size and density of the community. There is more empirical support for the "systemic model," which predicts that length of residence, position in the social structure, and stage in the life cycle will show the strongest relationship to attachment (England & Albrecht, 1984; Fischer, 1982; Gerson, Stueve, & Fischer, 1977; Hunter, 1975; Kasarda & Janowitz, 1974; Oxley, Barrera, & Sadalla, 1981; Riger & Lavrakas, 1981; Sampson, 1988). For our purposes there are two problems with this concept. First, the notion of "attachment to place" puts more emphasis on the territorial meaning of community than seems appropriate for the military context. We assume that the installation as a "place" may be part of what community means to military members and their families, but the notion of "community of interest" or "functional community" also seem applicable here, especially for those who live outside the installation (Nasar & Julian, 1995). The second limitation is that attachment has been mainly treated as an individual-level phenomenon. As Sampson pointed out, this is probably due to the heavy reliance on surveys in recent community research and to the lack of data for a sufficient number of different communities to permit comparisons.

Community satisfaction studies can be differentiated somewhat by the domains of satisfaction included in the research. Some emphasize primarily satisfaction with formal aspects of community—the functioning of institutions, service delivery, and environmental quality (Campbell, Converse, & Rodgers, 1976; Whorton & Moore, 1984). Others relate individuals' perceptions to their "places within interpersonal networks, norm and value systems, and life experience" (Bardo & Hughey, 1984, p. 152). The thrust of most of this research is to attempt to determine which domains are most important to one's over-all satisfaction, although there have been some efforts to correlate community features such as size, density, and heterogeneity to satisfaction (Baldassare, 1986). We have tended to regard community satisfaction as a separate variable which, depending on circumstances, could either be an antecedent or outcome of cohesion.

The psychological sense of community (PSC) construct commonly refers to feelings of belonging, of "we-ness," of identification with the community (Chavis, Hogge, McMillan, & Wandersman, 1986; Glynn, 1981; McMillan & Chavis, 1986; Sarason, 1974). McMillan formally defined it as "a feeling that members have of belonging and being important to each other, and a shared faith that members' needs will be met by their commitment to be together" (McMillan & Chavis, p. 11). While this construct taps part of what is involved

with cohesion, it is clearly another psychological measure used in studies in which the individual is the unit of analysis.

The research in the social network and neighboring traditions focuses more on the behavioral aspects of community by looking at actual social interaction, neighboring activities, and participation in voluntary and other organizations (Ahlbrandt, 1984; Fischer, 1982; Unger & Wandersman, 1985). Although this is an important component of our conception of cohesion, we felt that the techniques commonly used to map social networks were too cumbersome to be practical for use in a self-administered military survey.

Buckner's (1988) conceptualization of neighborhood cohesion combines elements of the constructs described above, and, therefore, comes closer than any one of them to what we were seeking. Based on his review of the literature on cohesion, Buckner distilled three dimensions: "residents' sense of community felt within the context of the neighborhood, residents' degree of attraction to live and remain in the neighborhood, and residents' degree of interaction in the neighborhood" (Buckner, p. 774). From these components he developed a scale of 18 items which, for ease of communication, he called "sense of community" (although he notes the construct he was measuring is broader in scope than a strictly defined "psychological sense of community"). When individual scores within a given neighborhood are averaged, the mean represents a measure of cohesion at the neighborhood level. In this way, he addressed the unit of analysis problem mentioned above. We agree with his caution that, " 'cohesion' holds semantic meaning only at a collective-level of analysis, as it refers to a collective-level attribute. Thus, its use at the individual-level ought to be done with care or avoided altogether" (Buckner, p. 787). Although Buckner's measure was conceptually close to what we had in mind, the focus on the "neighborhood" prevented us from simply adopting it. It is not fully relevant for our purposes because military members and their families tend to be dispersed among a variety of neighborhoods, not all of which are military. Buckner also did not include a cultural dimension (shared norms, values, symbols) which the works cited above indicate may be important components of cohesion.

The Community Cohesion Questionnaire

The primary purpose of the questionnaire is to develop and validate a measure of community cohesion. The instrument also includes measures of variables which previous research suggests are possible correlates of cohesion. Specifically, the contents of the questionnaire are organized as follows: Cohesion Measures, Social Participation in Installation Life, Factors Influencing Cohesion, and Outcomes.

Cohesion Measures

Recognizing that different entities in the installation community may compete for members' loyalties and commitment, we include measures of cohesion on three levels:

- Installation cohesion (Cohesion Scale developed for this study)
- Unit cohesion (Scales developed by Bliese & Halverson)
- Family cohesion (Scale developed by Antonovsky & Sourani, 1988)

Social Participation in Installation Life

The measures listed below are designed to validate the attitudinal cohesion measures listed above. We expect that in more cohesive installation communities there will be a higher proportion of members participating in the informal and formal activities on the installation.

- Network membership and involvement.
- Use of facilities and services on versus off the installations.
- Participation in official and social functions, voluntary organizations, and volunteer work.

Factors Influencing Cohesion

The factors listed below are some of those which previous research indicates may be correlated with community cohesion.

- **On- versus off-installation residence.** We would expect members and families who live on base/post or in off-base neighborhoods with many military neighbors to score higher on the cohesion items.
- **Tenure on installation.** The research reviewed above indicates that length of residence is associated with community cohesion.

- **Rank.** This variable includes a mixture of factors (socio-economic status and length of service) which previous research indicates may be related to cohesion.
- **Length of military service.** We expect that, as a likely result of a self-selection process, members and families who have been in the Armed Forces longer are more integrated into and committed to the life of the military community.
- **Family life stage.** There is some evidence to suggest that families with children are more involved with their neighbors and the community.
- **Perceived opportunities in military versus civilian life.** This refers to the continuance dimension discussed in Kanter (1968) and in the literature on organizations. Members and families who perceive that their opportunities in the military are better than those they might find in the civilian sector are expected to score higher on cohesion.
- **Surrounding cultural climate.** We expect that where respondents perceive the attitude of the adjacent civilian community and culture to be "alien" or unfriendly, cohesion on the military installation will be higher. This ties into the long-standing tradition of thought about group cohesiveness which holds that hostility from an "outgroup" promotes cohesion within the "ingroup."

Outcomes

Among the several possible consequences of cohesion, we selected the following to include in the survey because of their relevance to military policy interests and their suitability for measurement in a survey.

- **Perceived readiness.** This includes questions for military members about their perceptions of their unit's readiness, as well as questions for members and spouses about the family's ability to deal with the military member's absence.
- **Retention** (intentions to remain in the military).
- **Satisfaction with community and military life.**
- **Perceived level of social problems on installation.**

Many of the items included in the questionnaire have been developed by the MFI research team. Others have been borrowed from previous studies which are listed in Table 1. Some of these borrowed items have been modified to

make them more relevant to the military population. Wherever possible, we sought to retain the original wording of borrowed items to permit comparison of our findings with previous research.

Table 1
Resources for Questionnaire Items

- Antonovsky, A. & Sourani, T. (1988). Family sense of coherence and family adaptation. Journal of Marriage and the Family, 50, 79-92.
- Bell, B. D. & Teitelbaum, J. M. (1993). Operation restore hope: Preliminary results of a survey of army spouses at Fort Drum, New York. (Paper for presentation at the Biennial Conference of the Inter-University Seminar on Armed Forces and Society.)
- Bliese, P. D. & Halverson, R. R. (1996). Individual and nomothetic models of job stress: An examination of work hours, cohesion, and well-being. Journal of Applied Social Psychology, 26, 1171-1189.
- Davis, J. A. and Smith, T. W. General Social Surveys, 1972-1991. [machine-readable data file]. Principal Investigator, James A. Davis; Director and Co-Principal Investigator, Tom W. Smith. NORC ed. Chicago: National Opinion Research Center, producer, 1991; Storrs, CT: The Roper Center for Public Opinion Research, University of Connecticut, distributor. 1 data file (27,782 logical records) and 1 codebook.
- Donald, C. A. & Ware, J. E. (1984). The measurement of social support. Research in Community and Mental Health, 4, 325-370.
- Netemeyer, R. G., Boles, J. S., & McMurrian, R. (1996). Development and validation of work-family conflict and family-work conflict scales. Journal of Applied Psychology, 81(4), 400-410.
- Westat, Inc. (1994). 1992 Department of Defense surveys of officers and enlisted personnel and their spouses. Rockville, MD: Author.

The Military Community Cohesion Scale

Item Construction and Pretesting

A team of three sociologists, one with extensive experience of life on CONUS installations, generated the initial items for the cohesion scale. Items were modeled on various sources. Especially useful were Kanter's (1968) three-dimensional scheme, Griffith's (1988) vertical and horizontal dimensions, and Buckner's (1988) somewhat overlapping conceptualization of cohesion in neighborhoods. In addition, we made effort to draft most items in two versions: one in the first person (e.g., I'm proud to be part of this installation) and another in the third person (e.g., People are proud to be part of the military mission here). Two versions were generated because previous work suggested that individuals' judgments of the cohesiveness of a group are sometimes independent of their own cohesive sentiments and behaviors (Carron, et al., 1985). Additionally, we wanted to guard against problems of social desirability, which might affect first person statements and 'collective ignorance,' which might influence third person judgments.

Fifty-four items were generated in this way and submitted to a panel of sociologists who were asked to rate each on its relevance and clarity. Items were then grouped into 10 substantive clusters, modified as necessary and supplemented with additional items so that the 54 were now increased to 74 items. From the final 74 items, 50 were selected for pretesting to represent in roughly equal numbers the 10 clusters and first and third person versions of the items. The 10 clusters with an example of a first and third person version are presented in Table 2. These items were incorporated into a brief questionnaire with Bliese's measures of vertical and horizontal military unit cohesion and a shortened version of Buckner's (1988) neighborhood cohesion scale. The pretest questionnaire also included a short version of the Marlow-Crowne social desirability scale (Strahan & Gerbasi, 1972), measures of retention, and basic demographic items.

A convenience sample of 325 military members and spouses at an east coast naval air base participated in the pretest. Respondents were distributed over the some 17 types of work units at the base and included spouses (45%) as well as military members, officers (6% of the military members and 12% of the spouses) as well as enlisted personnel, and nonwhites (34%) as well as whites. Also in our sample are those who live on base (16%) as well as off base/post, those residing in barracks (6%), apartments (44%), and single-family dwellings; and newcomers at this base (1 year or less = 32%) and 'old hands' (3 or more years = 24%).

Table 2
Base Cohesion Item Clusters

- | |
|--|
| <p>I. Sense of 'we-ness' or identification with the base community (5)*
 I feel like I belong here.
 People here tend to stick to themselves.</p> <p>II. Continuance or personal attraction to the base community (5)
 I feel I can achieve my personal goals here.
 (No third person version was included.)</p> <p>III. Friendliness (5)
 I know the names of the people I see regularly on this base/post.
 This is a friendly base/post.</p> <p>IV. Reciprocity and readiness to help other members (5)
 When I need a favor, there's someone here I can ask for help.
 People are helpful around here.</p> <p>V. Informal socialization into base community life (3)
 When I came here, people went out of their way to help me learn the ropes.
 The officers here are good role models.</p> <p>VI. Informal social controls (6)
 I don't care what other people on this base/post think of me.
 On this installation, people talk if you don't do what you're supposed to.</p> <p>VII. Acceptance of the base community normative order (7)
 Most of the rules around here make good sense to me.
 The command treats people fairly here.</p> <p>VIII. Cooperation or suppression of self-interest for the sake of the common life (6)
 I often go out of my way to help others on this installation.
 People here can usually work out their disagreements.</p> <p>IX. Pride in membership and participation in the base ceremonial life (5)
 I'm proud to be part of this installation.
 There's a good turn out for the military ceremonies here.</p> <p>X. Identification with mission and ultimate purpose (3)
 I am strongly committed to the mission here.
 Many people here dislike military life.</p> |
|--|

*Numbers of pretested items in each cluster are recorded within parentheses.

Analysis of Pretest and Development of the Cohesion Scale

The 50 potential scale items were first correlated with the short version of the social desirability scale ($\alpha = .60$). Twenty three items displayed significant associations with this instrument and were eliminated from further analyses. Most problems lay in four content areas: I - Sense of 'we-ness' where four of five items were contaminated with social desirability, V - Informal socialization where all three items were significantly related to the social desirability scale, IX - Pride and ceremonial life where all five items were discarded, and X - Identification with mission where all three items displayed significant correlation.

The remaining 27 items were submitted to a principal components analysis. Five factors with eigenvalues greater than 1 were then rotated orthogonally with a varimax procedure. The results reported in Table 3 show that the first factor is substantially larger than the others, accounting for 23% of the variance among the total 27 items.

This factor has a strong normative component, as well as items tapping friendliness, reciprocity and cooperation. A second factor contains more friendliness and reciprocity items, some of which also load on Factor I. Items suggesting a perception of cliquishness and gossip directed at outsiders load on a third factor. The fourth factor conveys a sense of alienation or separation from the base community. Finally, a fifth factor contains many of the items intended to measure informal social controls.

We also performed a principal components analysis on all 50 items. We did so because some analysts (Carron, et al., 1985) have questioned the appropriateness of adjusting cohesion measures for social desirability, and because several item clusters we deemed relevant to cohesion were no longer represented when our items correlated with desirability were eliminated. The factor structure with all 50 items substantially replicated the results of the analysis containing the smaller subset of 27. Most important, the items intended to tap a sense of pride in community membership and participation in the ceremonial life of the base all loaded on Factor I, as did two of the three socialization items. These analyses thus suggest cohesion as here measured is dominated by one large, conceptually complex dimension, including components of friendliness, reciprocity, cooperation, normative legitimacy, and pride in membership.

Table 3
Principal Components Analysis of 27 Base Cohesion Items
Rotated Factor Loading of >.30

Item	FACTOR				
	I	II	III	IV	V
The command treats people fairly here.	.78				
Most of the rules around here make good sense to me.	.77				
People are helpful around here.	.76				
I am enjoying my life on this installation.	.74				
People here can usually work out their disagreements.	.70				
This is a friendly base/post.	.67				
I feel I can achieve my personal goals here.	.63				
What I'm learning and doing here will pay off in the future.	.62				
When events are planned here, people find a way to contribute.	.62				.32
Things run more smoothly here when military protocol is followed.	.61				
Personally, I dislike the rules around here.	.60				
People with different backgrounds work well together here.	.58				
I know the names of the people I see regularly on base/post.		.73			
I often do favors for people here.		.62			
I often work harder than I need to in order to help things get done here.		.55		.45	
When I need a favor, there's someone here I can ask for help.	.37	.55			
It's easy to make friends around here.	.47	.54			
If I had an emergency, there are people here I know I could count on.	.45	.51			
People here care only about their small circle of family and friends.			.82		
People here tend to stick to themselves.			.71	.30	
People around here only look out for themselves.			.68		
People are too lax about the rules here.				.62	
I don't fit in very well around here.		-.43		.59	
I don't care what other people on this base/post think of me.				.54	
News travels fast around here.		.43			.63
People don't really care what you do around here.				.41	.53
On this installation, people talk if you don't do what you're supposed to.			.48		.51
Initial Eigenvalue	8.0	2.4	2.0	1.3	1.1
Percent variance after varimax rotation	23	10	9	7	5

To determine the stability of the factor structure, we divided the sample into a subsample of military ($n=176$) and another of spouses ($n=145$) and recomputed the principal components analysis. Again, the results in each subsample were dominated by one large initial factor on which components of friendliness, reciprocity, cooperation, and legitimacy: again, all loaded. The contents of the third and fifth factors were also replicated in the subsamples. The second and fourth factors, however, broke up in one or the other subsample and appear to be unstable. These factors were therefore dropped from further analysis.

These subsample analyses thus confirm that base cohesion is dominated by one complex set of sentiments which includes normative legitimacy, cooperation, friendliness and enjoyment. In addition, in the total sample and both subsamples, an independent dimension emerges here for the first time which characterizes the community as marked by strong or weak elements of cliquishness. Furthermore, additional, independent dimensions of friendliness and reciprocity, and a sense of personal belonging may exist but appear unstable as measured here. It is important to note that these analyses have been conducted on subsamples of the population of *one* base; *inter-base* variations are not available to us at this point. Despite this caution, it is noteworthy that the dimensionally reported by Carron et al. (1985) in their study of athletic teams and that was postulated by Griffith (1988) for military work units did not appear here. Our results are thus similar to those of others who report unidimensional structures. At the same time, the potential presence of a second, largely independent dimension tapping the extent to which subgroups are seemingly open or closed to outsiders in the larger base community highlights our concern to move beyond the small group level of analysis to examine cohesion in the social setting in which such groups are found.

Scales of the first, third, and fifth principal components were constructed to represent base cohesion. The first contains six items which tap normative legitimacy, cooperation, friendliness, and enjoyment ($\alpha = .87$). (Note that the continuance items were not included in this scale because it will later be validated against measures of retention.) The second scale is comprised of the three items with the highest loadings on Factor III ($\alpha = .71$). A reliable scale of the last component, informal social controls, could not be constructed because the intercorrelations among items were too weak.

Scale Validation

To ascertain the concurrent validity of our measures of base cohesion we included Bliese's 5-item horizontal ($\alpha = .79$) and 5-item vertical ($\alpha = .88$) military work unit cohesion scales, as well as Buckner's (1988) 7-item neighborhood cohesion scale ($\alpha = .95$). We reasoned that for military members, base cohesion and work unit cohesion would be intimately associated. We thought that neighborhood cohesion would be related to base cohesion for spouses and possibly for military members, too. To assess construct validity we included measures of military retention. Each military member was asked, "Do you plan to stay in the military until you are eligible for retirement?" and "If you have the choice, how likely is it that you will extend your tour at this base/post?" We asked all spouses if they would like their husband or wife to remain on active duty, join the Reserve, leave the service, or retire at the end of his or her current assignment. We also asked how likely each was to remain at the base until their spouse ended his or her present tour of duty.

Table 4 contains correlation coefficients among our two measures of base cohesion, as well as the measures we included for purposes of concurrent validation.

Table 4
Intercorrelations among Cohesion Scales
And with a Short Social Desirability Scale

	MFI Base Cohesion Scale	MFI Base Cliquishness	Bleise Horizontal Work Unit	Bleise Vertical Work Unit	Buckner Neighborhood
MFI Base Cohesion Scale	1.00	-.33**	.52**	.55**	.31**
MFI Base Cliquishness Scale		1.00	-.40**	-.49**	-.05
Horizontal Work Unit			1.00	.32**	.13
Vertical Work Unit				1.00	.14
Neighborhood					1.00
Social Desirability	.05	-.05	-.03	.06	-.00

* $p \leq .05$

** $p \leq .01$

Both measures of base cohesion correlate strongly with Bleise's measures of work unit cohesion; the correlation values are .55, .52, -.49, -.40. Neighborhood cohesion as measured by Buckner's scale is also related to our general base cohesion measure, as we expected. The correlation in the total sample is .31. As we predicted, moreover, this association is stronger among spouses (.42) than among members (.20). The association between base and

neighborhood cohesion is also substantially stronger when the respondent's neighborhood is an extension of the base. Among respondents in military housing, $r = .62$ (civilian housing = .25) and among those who report most or all of their neighbors are also military, it is .40 (civilian neighbors = .05).

Our measure of cohesion also displays some of the relationships with demographic factors common to other measures of cohesion (Table 5). Base cohesion is positively associated with age, pay grade, and being married.

Table 5
Correlations between Measures of Cohesion,
Demographic Variables and Measures of Retention

	MFI Base Cohesion	MFI Base Cliquishness	Bliese Horizontal Work Unit	Bliese Vertical Work Unit	Buckner Neighborhood
Time at installation	.03	.01	-.03	-.06	.10
Resides on base (yes=1, no=0)	.01	.02	.03	-.02	-.15**
In military housing (yes=1, no=0)	-.00	.04	.04	.00	-.16**
Most/all neighbors military (yes=1, no=0)	.08	.01	.12	.08	-.10
Gender (male=1, female=0)	-.00	-.06	.08	.00	-.11
Age	.23**	-.03	-.06	.07	.27**
Race (Nonwhite =1, White=0)	-.10	.19**	-.12	-.08	-.12*
Education	.06	-.14*	.04	.03	.19*
Pay Grade	.21**	-.20**	.01	.24**	.33**
Married (yes=1, no=0)	.15**	-.10	-.01	.06	.14*
Preschool children (yes=1, no=0)	.00	-.01	.04	.05	.06
Primary school children (yes=1, no=0)	.05	.06	.03	-.03	.03
Adolescents (yes=1, no=0)	-.02	-.02	.00	.03	.04
Spouse supports member's retention until retirement (yes=1, no=0)	.28**	-.21*			-.00
Spouse intends to remain at post until member's tour ends (yes=1, no=0)	.18*	-.29**			.15
Member intends to remain until retirement (yes=1, no=0)	.34**	-.26**	.14	.31**	.15*
Member wants to extend tour at this base (yes=1, no=0)	.40**	-.38**	.27**	.37**	.13

* $p \leq .05$

** $p \leq .01$

On the other hand, two variables often associated with neighborhood and community cohesion in other studies (Goudy, 1990; Fischer, 1982; Stinner, Van Loon, Chung, & Byum., 1990) are unrelated here to base cohesion. Neither time at the installation nor the presence of children in the household is associated with our cohesion measures. Because tours of duty are typically short, there is much less variance in tenure on a military base than there is in a civilian community or neighborhood. That the presence of children is, likewise, not associated with more cohesive sentiments toward the base is consistent with much anecdotal evidence suggesting bases seldom involve youngsters successfully in their collective lives (Jeffreys, et al., 1997).

The relationships between our measures of cohesion at the base level and measures of retention are also very promising. Plans among military members to stay in the Armed Forces until eligible for retirement correlate .34 with our general measure of base cohesion. They are less strongly related to Bleise's vertical work unit cohesion and unrelated to his horizontal measure. Plans to extend one's tour of duty at the base are even more strongly associated with base cohesion ($r = .40$ with the general measure and $-.38$ with the measure of cliquishness). These relationships are substantially stronger than the relationships with horizontal work unit cohesion and appear to be somewhat stronger than the correlation with vertical work unit cohesion.

Implications

The measure of cohesion we have presented has been constructed and validated using data from the members of only one base. The results are very promising, but we wish to emphasize that the measure we envision requires further work before it is fully achieved. Our pretest data indicate, first, that more work needs to be done to develop items uncontaminated by social desirability in such domains as pride, commitment to ultimate purpose, and a sense of belonging. Second, our measure should be applied to a variety of installations in all four military services to establish the nature and stability of its dimensions. We believe it is likely that further work will confirm the presence of one large and general factor, but it is likely that other dimensions in addition to cliquishness could emerge. Finally, and most important, the measure of base cohesion we hope to achieve must be tested for homogeneity of response on a variety of bases, its individual values aggregated to provide an index of cohesion characterizing the base as a whole. That aggregate measure must then be validated against other aggregate level measures of cohesiveness.

Conclusion

As we indicated at the outset, there is a pressing need for research that would help us characterize and understand community cohesion at the installation level. Work units and individual families, which have been extensively studied in military research, exist in the context of a larger community which makes many demands on its members.

The literature review identified several factors which might contribute to military community cohesion, the first objective stated at the beginning of this report. We have developed a questionnaire which includes measures for several of these variables.

Considerable progress has been made on the second objective, to develop a measure of base cohesion. The pretest results reported here are promising, but this is just a first step in a process which should continue. Items need to be refined and additional pretests on several installations in different services would be necessary to assure that the measures are stable and reliable.

The questionnaire also includes items designed to investigate the interaction between unit cohesion and community cohesion, as well as measures to assess the contributions of both of these sets of variables to operational readiness, the third and fourth objectives of this research.

Our preliminary work reported in this report provides reason to believe that the cohesion a military community achieves affects readiness and retention and may also influence families' ability to cope with military life. A full-scale study, incorporating the research design discussed in this report, should provide the conclusive data needed to better understand these relationships.

Bibliography

Ahlbrandt, R. S. (1984). Neighborhoods, people, and community. New York: Plenum Press.

Albano, S. (1995). Barriers and facilitators to use of Air Force Family Support Centers. Unpublished doctoral dissertation, Heller School, Brandeis University.

Antonovsky, A. & Sourani, T. (1988). Family sense of coherence and family adaptation. Journal of Marriage and the Family, 50, 79-92.

Baldassare, M. (1986). Residential satisfaction and the community question. Sociology and Social Research, 70(2), 139-142.

Bardo, J. W. & Hughey, J. B. (1984). The structure of community satisfaction in a British and an American community. The Journal of Social Psychology, 124, 151-157.

Bell, B. D. (December 6-10 1993). Spouse support during peacekeeping missions: Lessons learned from Operation Restore Hope. Paper presented at the 9th Annual NATO Stress Workshop, San Antonio, TX.

Bell, B. D. & Teitelbaum, J. M. (October 23, 1993). Operation Restore Hope: Preliminary results of a survey of Army spouses at Fort Drum, New York. Paper for presentation at the Biennial Conference of the Inter-University Seminar on Armed Forces and Society, Baltimore, MD.

Bell, D. B., Stevens, M. L., & Segal, M. W. (1996). How to support families during overseas deployments: A sourcebook for service providers. (Research Report 1687). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.

Bliese, P. D., & Halverson, R. R. (1996). Individual and nomothetic models of job stress: An examination of work hours, cohesion, and well-being. Journal of Applied Social Psychology, 26(13), 1171-1189.

Bliese, P. D., Halverson, R. R., & Rothberg, J. (1994). Within-group agreement scores: Using resampling procedures to estimate expected variance. Academy of Management, Best Papers Proceedings, 54, 303-307.

Bollen, K. A. & Hoyle, R. H. (1990). Perceived cohesion: A conceptual and empirical examination. Social Forces, 69(2), 479-504.

Bowen, G. L. (1989a). Satisfaction with family life in the military. Armed Forces and Society, 15 (4), 571-592.

Bowen, G. L. (1989b). Family adaptation to relocation: An empirical analysis of family stressors, adaptive resources, and sense of coherence (Technical Report 856). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.

Bowen, G. L. (1998). Effects of leader support in the work unit on the relationship between work spillover and family adaptation. Journal of Family and Economic Issues, 19(1), 25-52.

Bowen, G. L. (1998). Community resiliency: A research roadmap. Chapel Hill, NC: The University of North Carolina at Chapel Hill, School of Social Work.

Bowen, G. L., Richman, J. M., & Bowen, N. K. (in press). Families in the context of communities across time. In S. J. Price & P. C. McKenry (Eds.), Families across time: A life course perspective. Los Angeles: Roxbury Publishers.

Brawley, L. R. (1990). Group cohesion: Status, problems, and future directions. International Journal of Sports Psychology, 21, 355-379.

Brawley, L. R., Carron, A. V., & Widmeyer, W. N. (1987). Assessing the cohesion of teams: Validity of the group environment questionnaire. Journal of Sport Psychology, 9, 275-294.

Buckner, J. C. (1988). The development of an instrument to measure neighborhood cohesion. American Journal of Community Psychology, 16(6), 771-791.

Campbell, A., Converse, P. E., & Rodgers, W. L. (1976). The quality of American life: Perceptions, evaluations, and satisfactions. New York: Russell Sage.

Campbell, K. E. (1990). Gender differences in urban neighboring. Sociological Quarterly, 31(4), 495-513.

Campbell, K. E. & Lee, B. A. (1991). Name generators in surveys of personal networks. Social Networks, 13, 203-221.

Carron, A. V., Widmeyer, W. N., & Brawley, L. R. (1985). The development of an instrument to assess cohesion in sport teams: The group environment questionnaire. Journal of Sport Psychology, 7, 244-266.

Chavis, D. M., Hogge, J. H., McMillan, D. W., & Wandersman, A. (1986). Sense of community through Brunswik's Lens: A first look. Journal of Community Psychology, 14, 24-40.

Cohen, S., Doyle, W. J., Skoner, D. P., Rabin, B. S., & Gwaltney, J. M. (1977) Social ties and susceptibility to the common cold. Journal of the American Medical Association, 277(24), 1940-1944.

Cota, A. A., Evans, C. R., Dion, K. L., Kilik, L., & Longman, R. S. (1995). The structure of group cohesion. Personality and Social Psychology Bulletin, 21(6), 572-580.

Cota, A. A., Evans, C. R., Longman, R. S., Dion, K. L., & Kilik, L. (1995). Using and misusing factor analysis to explore group cohesion. Journal of Clinical Psychology, 51(2), 308-316.

Davis, J. A. and Smith, T. W. General Social Surveys, , 1972-1991. [machine-readable data file]. Principal Investigator, James A. Davis; Director and Co-Principal Investigator, Tom W. Smith. NORC ed. Chicago: National Opinion Research Center, producer, 1991; Storrs, CT: The Roper Center for Public Opinion Research, University of Connecticut, distributor

Department of Defense (1996). Proceedings from the December 1996 DoD Quality of Life Research Symposium at Georgetown University, Washington, DC. "Communities of the future" Volumes 1 & 2.

Donald, C. A. & Ware, J. E. (1984). The measurement of social support. Research in Community and Mental Health, 4, 325-370.

Donnelly, P. G. & Majka, T. J. (1996). Change, cohesion, and commitment in a diverse urban neighborhood. Journal of Urban Affairs, 18(3), 269-284.

Dunivin, K. O. (1994). Military culture: Change and continuity. Armed Forces and Society, 20(4), 531-547.

Durand, D. (1993). The contemporary role of the Army officer's wife: Changing, conflicting, ambiguous. Paper presented at the Inter-University Seminar of Armed Forces and Society, Baltimore, MD.

Durkheim, E. (1951) Suicide: A study in sociology. Glencoe, Illinois: Free Press.

England, J. L. & Albrecht, S. L. (1984). Boomtowns and social disruption. Rural Sociology, 49, 230-46.

Escovar, L. A., & Sim, F. M. (1974). The cohesion of groups: Alternative conceptions. Paper presented at the Meeting of the Canadian Sociology and Anthropology Association, Toronto.

Evans, C. R. & Dion, K. L. (1991). Group cohesion and performance: A meta-analysis. Small Group Research, 22(2), 175-186.

Fischer, C. S. (1982). To dwell among friends: Personal networks in town and city. Chicago: University of Chicago Press.

Gerson, K. C., Stueve, A., & Fischer, C. (1977). Attachment to place. In C. S. Fischer, R. M. Jackson, C. A. Stueve, K. Gerson, L. M. Jones, & M. Baldassare (Eds.), Networks and places: Social relations in an urban setting. (pp. 139-161). New York: Free Press.

Glynn, T. J. (1981). Psychological sense of community: Measurement and application. Human Relations, 34(7), 789-818.

Goudy, W. J. (1990). Community attachment in a rural region. Rural Sociology, 55(2), 178-198.

Griffith, J. (1988). Measurement of group cohesion in U.S. Army units. Basic and Applied Psychology, 9(2), 149-171.

Griffith, J. P., Gogan, H. C., Ianacchione, V. G., & Rourke, K. M. (1990). Summary of findings from the community and family support image awareness survey. Research Triangle Park, NC: Research Triangle Institute/Caliber Associates.

Gully, S. M., Devine, D. J., & Whitney, D. J. (1995). A meta-analysis of cohesion and performance. Effects of level of analysis and task interdependence. Small Group Research, 26(4), 497-520.

Hogg, M. A. (1992). The social psychology of group cohesiveness: From attraction to social identity. New York: New York University Press.

House, J. S., Landies, K. R., & Umberson, D. (1988). Social relationships and health. Science, 18(4), 540-545.

Hunter, A. (1975). The loss of community: An empirical test through replication. American Sociological Review, 40(5), 537-552.

Hunter, A. (1978). Persistence of local sentiments in mass society. In D. Street (Ed.), Handbook of contemporary urban life (pp. 133-162). San Francisco: Jossey-Bass.

Janofsky, B. J. (1989). The dual-career couple: Challenges and satisfactions. In G. L. Bowen & D. K. Orthner (Eds.), The organization family: Work and family linkages in the U.S. military (pp. 97-115). New York: Praeger.

Jeffreys, D. J., Leitzel, J. D., Cabral, G., Gumpert, J., Hartley, E., Lare, D., Nagy, N. M., O'Brien, E. J., Russo, T. J., Salvaterra, M., & Strobino, J. (1997). Military adolescents: Their strengths and vulnerabilities. (MFI Technical Report 97-4). Scranton, PA: Military Family Institute, Marywood University.

Kanter, R. M. (1968). Commitment and social organization: A study of commitment mechanisms in utopian communities. American Sociological Review, 33(4), 499-517.

Kasarda, J. & Janowitz, M. (1974). Community attachment in mass society. American Sociological Review, 39, 328-339.

Lakhani, H. (1994). The socio-economic benefits to military families of home-basing of armed forces. Armed Forces & Society, 21(1), 113-128.

Leighton, D. C., Harding, J. S., Macklin, D. B., Macmillian, A. M., Leighton, A.H. (1959-1963). The Stirling County study of psychiatric disorder and socio-cultural environment. New York: Basic Books.

Lincoln, J. R. & Kalleberg, A. L. (1990). Culture, control, and commitment: A study of work organization and work attitudes in the United States and Japan. Cambridge, NJ: Cambridge University Press.

Martin, J. A., & Orthner, D. K. (1989). The "company town" in transition: Rebuilding military communities. In G. L. Bowen & D. K. Orthner (Eds.), The organization family: Work and family linkages in the U.S. military (pp. 163-177). New York: Praeger.

McClure, H. M. (1992). Alienated patriots: A sociological portrait of military retirees. Unpublished Ph.D. Dissertation, University of California at Berkeley, Berkeley, CA.

McClure, P. & Stander, V. (1997). Military marriages in the 1990s. Paper presented at the American Sociological Association, Toronto, Canada.

McCubbin, H. I. & Lavee, Y. (1986). Strengthening Army families: A family life cycle stage perspective. Evaluation and Program Planning, 9, 221-231.

McMillan, D. W. & Chavis, D. M. (1986). Sense of community: Definition and theory. Journal of Community Psychology, 14, 6-23.

Merry, S. E. (1981). Urban danger: Life in a neighborhood of strangers. Philadelphia: Temple University Press.

Meyer, J. P., Paunonen, S. V., Gellatly, I. R., Goffin, R. D., & Jackson, D. N. (1989). Organizational commitment and job performance: It's the nature of the commitment that counts. Journal of Applied Psychology, 74(1), 152-156.

Mirowsky, J. (1996). Age and the gender gap in depression. Journal of Health and Social Behavior, 37(4), 362-381.

Nasar, J. L. & Julian, D. A. (1995). The psychological sense of community in the neighborhood. Journal of the American Planning Association, 61(2), 178-184.

Netemeyer, R. G., Boles, J. S., & McMurrian, R. (1996). Development and validation of work-family conflict and family-work conflict scales. Journal of Applied Psychology, 81(4), 400-410.

Orthner, D. K., Devall, E., & Stawarski, C. (1990). Community satisfaction: Implications for Army communities (ARI Research Note 90-96). Research Triangle Park, NC: Research Triangle Institute.

Oxley, D., Barrera, M., & Sadalla, E. K. (1981). Relationships among community size, mediators, and social support variables: A path analytic approach. American Journal of Community Psychology, 9(6), 637-651.

Portes, A. & Sensenbrenner, J. (1993). Embeddedness and immigration: Notes on the social determinants of economic action. American Journal of Sociology, 6(May), 1320-1350.

Riger, S. & Lavrakas, P. J. (1981). Community ties: Patterns of attachment and social interaction in urban neighborhoods. American Journal of Community Psychology, 9(1), 55-66.

Sampson, R. J. (1988). Local friendship ties and community attachment in mass society: A multilevel systemic model. American Sociological Review, 53(October), 766-779.

Sarason, S. B. (1974). The psychological sense of community: Prospects for a community psychology. San Francisco: Jossey-Bass.

Schneider, R. J. & Gilley, M. A. (1984). Family adjustment in USAREUR: Final report. New York: U.S. Army Medical Research Unit-Europe.

Segal, D. R., Schubert, J. D., & Li, X. (1991). Establishing unit cohesion in the U.S. Army: A half-century of applied research. Sociological Practice Review, 2(1), 9-14.

Segal, M. W. & Harris, J. J. (1993). What we know about Army families (Special Report 21). Alexandria, VA: U. S. Army Research Institute for the Behavioral and Social Sciences.

Shils, E. A. & Janowitz, M. (1948). Cohesion and disintegration in the Wehrmacht in World War II. Public Opinion Quarterly, 12(Summer), 280-315.

Stinner, W. F., Van Loon, M., Chung, S. W., & Byun, Y. (1990). Community size, individual social position, and community attachment. Rural Sociology, 55(4), 494-521.

Stouffer, S. A., Lumsdaine, M. H., Williams, R. B., Smith, M. B., Janis, I. L., Star, S. A., & Cottrell, L. S. (1949). The American soldier: Combat and its aftermath. Princeton, NJ: Princeton University Press.

Strahan, R. & Gerbasi, K. C. (1972). Short, homogeneous versions of the Marlowe-Crowne social desirability scale. Journal of Clinical Psychology, 28, 191-193.

Styles, M. B., Janofsky, B. J., Blankinship, D., & Bishop, S. (1990). Investigating family adaptation to Army life: Exploratory site visit findings (Research Note 90-15). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.

Suttles, G. D. (1968). The social order of the slum. Chicago: University of Chicago Press.

Twiss, P. C. & Martin, J. A. (1998). Quality of life and shelter: A history of military housing policy and initiatives (1973-1996) (MFI Technical Report 98-1). Scranton, PA: Military Family Institute, Marywood University.

Unger, D. G. & Wandersman, A. (1985). The importance of neighbors: The social, cognitive, and affective components of neighboring. American Journal of Community Psychology, 13(2), 139-169.

Vernez, G. & Zellman, G. L. (1987). Families and mission: A review of the effects of family factors on Army attrition, retention, and readiness (A Rand Note 2624-A). Santa Monica, CA: The RAND Corporation.

Westat, Inc (1994). 1992 Department of Defense surveys of officers and enlisted personnel and their spouses. Rockville, MD: Author.

Whorton, J. W. & Moore, A. B. (1984). Summative scales for measuring community satisfaction. Social Indicators Research, 15(3), 297-307.

Wood, S., Scarville, J., & Gravino, K. S. (1995). Waiting wives: Separation and reunion among Army wives. Armed Forces & Society, 21(2), 217-236.

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

1. AGENCY USE ONLY (Leave Blank)		2. REPORT DATE September 1998	3. REPORT TYPE AND DATES COVERED Final January 1996 - September 1998	
4. TITLE AND SUBTITLE Military Community Cohesion			5. FUNDING NUMBERS F49620-93-1-0586 AFOSR CFDA #12.800	
6. AUTHOR(S) Peggy McClure, Ph.D. and Walter Broughton, Ph.D.				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Military Family Institute Marywood University 2300 Adams Avenue Scranton, PA 18509-1598			8. PERFORMING ORGANIZATION REPORT NUMBER Military Family Institute (MFI) Technical Report 98-4	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) AFOSR/NL 110 Duncan Avenue, Suite B115 Bolling AFB, DC 20332-0001			10. SPONSORING/MONITORING AGENCY REPORT NUMBER AFOSR/NL Project Task #7755/00	
11. SUPPLEMENTARY NOTES Contracting officer: Ms. Marilyn J. McKee				
12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited.			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words): Several trends affecting the military make the cohesion of installations increasingly problematic. At the same time, recent work in military sociology contends greater attention should be paid to the integration of military units within the larger social entities. We report the results of a pretest conducted among 325 military personnel and spouses on an east coast air base to construct a measure of base cohesion. A principal components analysis yields two relatively stable and independent dimensions from the 50 Likert items we constructed. These reliable scales correlate well with measures of work unit cohesion and with a measure of neighborhood cohesion (especially among respondents in neighborhoods that are an extension of the base). They also correlate as well or better than work unit cohesion with measures of retention.				
14. SUBJECT TERMS cohesion of military installations military cohesion neighborhood cohesion on-base off-base military cohesiveness military community			15. NUMBER OF PAGES 41	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT Unlimited	